In Germany, education in Systems Engineering (SE) is not formally addressed in Engineering Studies. Only some German Universities for Applied Sciences are offer studies called “Systems Engineering”. Hereby, the focus is set on conventional design. System thinking, managing complex systems, and accompanied methods make not part of the curriculum. When considering the requirements in Germany industry, the need for improvement of SE education at university level become obvious. Two years ago, the institute of product development at the Technische Universität München (TUM) set up a laboratory on Systems Engineering in the context of product development. It addresses students from mechanical engineering, who do not possess previous knowledge in SE. During the laboratory, the main focus is on complex systems, bringing systems into conceptual design, and generating customized product variants. This paper presents the concept for teaching Systems Engineering
to bachelor and master students in an one-week laboratory. The laboratory is accompanied by
an industrial case study. The paper shows which SE-related competencies the students acquire
by attending the laboratory. Teaching objectives are presented, followed by the preparation and
implementation of the laboratory. In addition, the evaluation of the laboratory from students’
perspective and the identified areas for future improvement are shown.

Stichworte: Teaching; System Engineering; Laboratory; Students

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Occurences:

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